



01-17-06

JFW

9105-212.EAS.gp.379512

WEMMH PTO/SB/21 (09-04)

Approved for use through 7/31/2006. OMB 0651-0032

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

**TRANSMITTAL  
FORM**

(to be used for all correspondence after initial filing)

Application Number	10/692,312
Filing Date	October 23, 2003
First Named Inventor	Jian Lu
Art Unit	1742
Examiner Name	Unknown
Attorney Docket Number	9104-212

Total Number of Pages in this Submission

**ENCLOSURES (check all that apply)**

- |   |  |  |
|---|--|--|
| <input type="checkbox"/> Fee Transmittal Form<br><input type="checkbox"/> Fee Attached Credit Card Payment Form<br><input type="checkbox"/> Amendment Response<br><input type="checkbox"/> After Final<br><input type="checkbox"/> Affidavits/declaration(s)<br><input type="checkbox"/> Extension of Time Request<br><input type="checkbox"/> Express Abandonment Request<br><input checked="" type="checkbox"/> Supplemental Information Disclosure Statement Form SB/08a<br><input type="checkbox"/> Certified Copy of Priority Documents<br><input type="checkbox"/> Response to Missing Parts/Incomplete Application<br><input type="checkbox"/> Response to Missing Parts under 37 CFR 1.52 or 1.53 | <input type="checkbox"/> Drawing(s)<br><input type="checkbox"/> Licensing-related Papers<br><input type="checkbox"/> Petition<br><input type="checkbox"/> Petition to Convert a Provisional Application<br><input type="checkbox"/> Power of Attorney, Revocation, Change of Correspondence Address<br><input type="checkbox"/> Terminal Disclaimer<br><input type="checkbox"/> Request for Refund<br><input type="checkbox"/> CD, Number of CD(s) _____<br><input type="checkbox"/> Landscape Table on CD | <input type="checkbox"/> After Allowance Communication to TC<br><input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences<br><input type="checkbox"/> Appeal Communication to TC (Appeal Notice, Brief, Reply Brief)<br><input type="checkbox"/> Proprietary Information<br><input type="checkbox"/> Status Letter<br><input checked="" type="checkbox"/> Return Receipt Postcard<br><input checked="" type="checkbox"/> Other Enclosure(s) (please identify below): <b>IDS Cover Letter, 7 foreign references, and 11 nonpatent literature documents.</b> |
|---|--|--|
- Remarks

**SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT**

Firm Name	Woodard, Emhardt, Moriarty, McNett & Henry LLP	
Signature		
Printed Name	Charles R. Reeves	
Date	January 13, 2006	Reg. No. 28,750

- ☐ I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as **first class mail** in an envelope addressed to Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date indicated below.
- ☒ I hereby certify that this correspondence is being deposited with the United States Postal Service as "**Express Mail Post Office to Addressee**" in an envelope addressed to Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, Mailing Label No. EV 746141834 US, on the date indicated below.
- ☐ I hereby certify that this correspondence is being **facsimile transmitted** to the United States Patent and Trademark Office, Fax No. (571) 273-8300 on the date indicated below.

Charles R. Reeves

Typed/printed name of person signing this certificate

January 13, 2006

Date

Signature



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re patent application of: )  
)  
Jian Lu ) Before the Examiner  
) Unknown  
Application No. 10/692,312 )  
) Group Art Unit  
Filed October 23, 2003 ) 1742  
)  
METHOD AND APPARATUS FOR )  
MAGNETICALLY STIRRING A )  
THIXOTROPIC METAL SLURRY )

SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT

Mail Stop Amendment  
Commissioner for Patents  
PO Box 1450  
Alexandria, VA 22313-1450

Commissioner:

1. List of All Patents, Publications, U.S. Applications, or Other Information

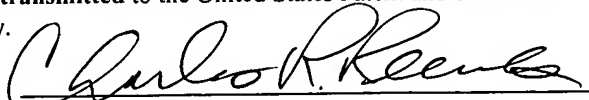
Pursuant to the provisions of 37 CFR 1.56, 1.97, and 1.98, Applicant requests consideration of the references listed on the attached PTO/SB/08 form(s) (commonly referred to as a PTO-1449 form) and/or the additional information identified below.

☐ I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as **first class mail** in an envelope addressed to Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date indicated below.

☒ I hereby certify that this correspondence is being deposited with the United States Postal Service as "**Express Mail** Post Office to Addressee" in an envelope addressed to Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, Mailing Label No. EV 746141834 US, on the date indicated below.

☐ I hereby certify that this correspondence is being **facsimile transmitted** to the United States Patent and Trademark Office, Fax No. (571) 273-8300 on the date indicated below.

Charles R. Reeves  
Typed/printed name of person signing this certificate

  
Signature

January 13, 2006  
Date

Supplemental Information Disclosure Statement  
Serial No. 10/692,312  
Group Art Unit 1742  
Attorney Docket No. 9105-212  
379507

Via Express Mail Label No. EV 746141834 US

2. Enclosed Legible Copies

- a. A legible copy of each foreign patent document and publication listed on the PTO/SB/08 form is enclosed,
- ☐ i. except, a copy is not provided for each reference previously cited by or submitted to the Patent Office in prior U.S. Patent Application Serial No. \_\_\_\_\_, filed \_\_\_\_\_ from which the present application claims priority under 35 U.S.C. §120.
- ☐ ii. except, a copy is not provided for each cumulative reference and enclosed reference identified below:
- ☐ b. A copy of the specification and drawings for each cited unpublished U.S. application.
- ☒ c. A copy of a Search Report or Written Opinion from a foreign patent office is also enclosed.
- ☐ d. Consideration of the enclosed additional and/or below discussed information is requested.

3. Concise Explanation of Relevance for Non-English Language Information

For each non-English language reference listed on the attached SB/08 form(s), reference is made to:

- ☐ 3a. an English language translation submitted herewith,
- ☒ 3b. foreign patent office Search Report (in the English language) submitted herewith,
- ☐ 3c. an English language translation of a foreign patent office Search Report submitted herewith,
- ☐ 3d. the concise explanation contained in the present application at page(s) \_\_\_\_\_,
- ☐ 3e. the concise explanation set forth in the attached English language abstract,
- ☐ 3f. a copy of a related patent publication (in the English language) cited herewith,

Foreign Patent Document	Corresponding English Language Patent Document

- ☐ 3g. the following concise explanation: \_\_\_\_\_.

4. Time for Filing


- ☒ 4a. This Information Disclosure Statement is submitted:
- ☐ i. for U.S. national applications or national stage PCT applications (not including CPAs and RCEs), within 3 months of filing or entry into national stage; or
  - ☒ ii. for U.S. national applications, national stage PCT applications, CPAs or RCEs, before the first Office Action on the merits,
- and thus no certification and/or fee is required.
- ☐ 4b. This information Disclosure Statement is submitted after three months from the filing date and after the first Office Action on the merits, but prior to the mailing date of a final Office Action or Notice of Allowance, and thus:
- ☐ i. the statement specified in 37 CFR §1.97(e) is provided below, or
  - ☐ ii. a fee of \$\_\_\_\_\_ (set forth in 37 CFR §1.17(p)) is enclosed.
- ☐ 4c. This Information Disclosure Statement is submitted after the mailing date of a final Office Action or Notice of Allowance and prior to payment of the issue fee, and thus:
- ☐ i. the statement specified in 37 CFR §1.97(e) is provided below, and a fee of \$\_\_\_\_\_ (set forth in 37 CFR §1.17(p)) is enclosed, or
  - ☐ ii. a Request for Continued Examination (RCE) and fee of 37 CFR §1.17(e) has been filed.
- ☐ 4d. This Information Disclosure Statement is submitted after payment of the issue fee, and thus:
- i. a Petition to Withdraw from Issue pursuant to 37 CFR §1.313(c)(2) has been filed, and
  - ii. a Request for Continued Examination (RCE) and fee of 37 CFR §1.17(e) has been filed.

5. Certification- Statement Under 37 CFR 1.97(e)

- ☐ 5a. It is hereby certified that each item of information contained in this Information Disclosure Statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this Information Disclosure Statement.
- ☐ 5b. A copy of a dated communication from a foreign patent office which clearly shows the statement is being submitted within three (3) months of the date on the communication is enclosed.
- ☐ 5c. It is hereby certified that no item of information contained in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application and, to my knowledge after making reasonable inquiry, no item of information contained in this Information Disclosure Statement was known to any individual designated in §1.56(c) more than three months prior to the filing of this Information Disclosure Statement.

The filing of this Information Disclosure Statement shall not be construed as an admission that the information cited is, or is considered to be, material to patentability as defined in §1.56(b). It is believed that no additional fees are required. Should any other fee be required, however, please charge such fee to Deposit Account No. 23-3030, but not to include any payment of issue fees.

Respectfully submitted,

By   
Charles R. Reeves, Reg. No. 28,750  
Woodard, Emhardt, Moriarty, McNett & Henry LLP  
111 Monument Circle, Suite 3700  
Indianapolis, Indiana 46204-5137  
(317) 634-3456

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number

Substitute for form 1449A/PTO  <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  <i>(Use as many sheets as necessary)</i>				<b>Complete if Known</b>	
				Application Number	10/692,312
				Filing Date	October 23, 2003
				First Named Inventor	Jian Lu
				Art Unit	1742
				Examiner Name	Unknown
Sheet	2	of	4	Attorney Docket No.	9105-212

U.S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. <sup>1</sup>	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Application of Cited Document	Pages, Columns, Lines Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code <sup>2</sup> (If known)			
		US- 5,031,108	7/9/1991	Fujita et al.	
		US- 5,031,127	7/9/1991	Fujita et al.	
		US- 5,050,114	9/17/1991	Lee	
		US- 5,129,035	7/7/1992	Saji et al.	
		US- 5,265,040	11/23/1993	Saji et al.	
		US- 5,315,530	5/24/1994	Gerhardt et al.	
		US- 5,377,119	12/27/1994	Backer et al.	
		US- 5,402,366	3/28/1995	Kihara et al.	
		US- 5,408,638	4/18/1995	Sagawa et al.	
		US- 5,411,686	5/2/1995	Hata	
		US- 5,416,795	5/1/1995	Kaniuk et al.	
		US- 5,432,718	7/11/1995	Molvig et al.	
		US- 5,499,198	3/12/1996	Gaidos et al.	
		US- 5,539,183	7/1/1996	Beckley	
		US- 5,553,206	9/3/1996	Meshkat	
		US- 5,572,434	11/5/1996	Wang et al.	
		US- 5,585,067	12/1/1996	Leroy et al.	
		US- 5,625,579	4/29/1997	Hinsberg et al.	
		US- 5,640,331	6/17/1997	Dahm et al.	
		US- 5,661,670	8/26/1997	Bharathan et al.	
		US- 5,677,844	10/14/1997	Kubo	
		US- 5,732,192	3/24/1998	Malin et al.	
		US- 5,756,017	5/26/1998	Togawa et al.	
		US- 5,781,581	7/1/1998	Fishman et al.	
		US- 5,800,640	9/1/1998	Yamamoto et al.	
		US- 5,801,969	9/1/1998	Nagahama	
		US- 5,803,154	9/8/1998	Sugawara et al.	

Examiner Signature		Date Considered	
-----------------------	--	--------------------	--

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. <sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> See Kinds Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number

Substitute for form 1449A/PTO  <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  <i>(Use as many sheets as necessary)</i>				<b>Complete if Known</b>	
				Application Number	10/692,312
				Filing Date	October 23, 2003
				First Named Inventor	Jian Lu
				Art Unit	1742
				Examiner Name	Unknown
Sheet	3	of	4	Attorney Docket No.	9105-212

[illegible]

Examiner Signature		Date Considered	
-----------------------	--	--------------------	--

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. <sup>1</sup>Applicant's unique citation designation number (optional). <sup>2</sup> See Kinds Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.



Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number

<b>Substitute for form 1449A/PTO</b>  <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  (Use as many sheets as necessary)				<b>Complete if Known</b>	
				Application Number	10/692,312
				Filing Date	October 23, 2003
				First Named Inventor	Jian Lu
				Art Unit	1742
Examiner Name	Unknown				
Sheet	1	of	4	Attorney Docket No.	9105-212

U.S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. <sup>1</sup>	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Application of Cited Document	Pages, Columns, Lines Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code <sup>2</sup> (If known)			
		US- 2,215,887	9/1/1940	Seigle et al.	
		US- 2,758,831	8/14/1956	Winter	
		US- 3,523,785	8/1/1970	Gero	
		US- 3,730,257	5/1/1973	Hausner	
		US- 3,735,010	5/22/1973	Turpin	
		US- 4,106,956	8/15/1978	Bercovici	
		US- 4,354,831	10/19/1982	Shinkawa et al.	
		US- 4,433,715	2/1/1984	Smith	
		US- 4,434,839	3/6/1984	Vogel	
		US- 4,463,795	8/7/1984	Chielens et al.	
		US- 4,510,987	4/16/1985	Collot	
		US- 4,534,003	8/6/1985	Manzione	
		US- 4,621,676	11/11/1986	Steward	
		US- 4,669,529	6/1/1987	Evertz et al.	
		US- 4,972,334	11/20/1990	Yamabe et al.	
		US- 4,989,166	1/29/1991	Akasaka et al.	
		US- 5,010,501	4/23/1991	Arakawa	

FOREIGN PATENT DOCUMENTS						
Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Application of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T <sup>6</sup>
		Country Code <sup>3</sup> -Number <sup>4</sup> -Kind Code <sup>5</sup> (if known)				
		EP 0701002 A1	3/13/1996	Adachi et al.		<input type="checkbox"/>
		EP 411329 A1	2/6/1991	Moschini		<input type="checkbox"/>
		EP 947262 A1	10/6/1999	Nakamura et al.		<input type="checkbox"/>
		GB 2042386	3/13/1996	ITT Industries, Inc.		<input type="checkbox"/>
		GB 2238498A	6/5/1991	Shows Electric Wire		<input type="checkbox"/>
		WO 97/21509	6/1/1997	Carnahan		<input type="checkbox"/>
		DE 2424532 A1	12/4/1975	Seidel		<input type="checkbox"/>

Examiner Signature		Date Considered	
-----------------------	--	--------------------	--

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. <sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> See Kinds Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.



<small>WEMMH PTO/SB/08a (07-05)          Approved for use through 07/31/2006. OMB 0651-0031          U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE          Under the Paperwork Reduction Act of 1995, no persons are required to respond          to a collection of information unless it contains a valid OMB control number</small>					
Substitute for form 1449A/PTO  <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  <i>(Use as many sheets as necessary)</i>				<b>Complete if Known</b>	
				Application Number	10/692,312
				Filing Date	October 23, 2003
				First Named Inventor	Jian Lu
				Art Unit	1742
				Examiner Name	Unknown
Sheet	4	of	4	Attorney Docket No. 9105-212	
<b>NON PATENT LITERATURE DOCUMENTS</b>					
Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s) publisher city and/or country where published			T <sup>6</sup>
		WANG, S. P., et al., "A Net Inflow Method for Incompressible Viscous Flow with Moving Free Surfaces," pages 669-694, (1994), Int. Jor. For Numerical Methods in Fluids, Vol. 18, U.S.			<input type="checkbox"/>
		CHOI, H. G., et al: "Hybrid Numerical Method For Navier-Stokes Equations Based On Simple Algorithm," Numerical Heat Transfer, Part B, Sept 1995, pages 155-170.			<input type="checkbox"/>
		PATANKAR, S.V., "Numerical Heat Transfer and Fluid Flow," Hemisphere Publication Corporation, (1980), United States			<input type="checkbox"/>
		SAABAS, H. J. et al: "Co-located Equal-Order Control-Volume Finite-Element Method For Multidimensional, Incompressible, Fluid Flow Part I: Formulation" Numerical Heat Transfer, Part B, United Kingdom, Vol. 26, No. 4, 1994, pages 381-407, ISSN: 1040-7790.			<input type="checkbox"/>
		CHRISTON, "A Vectorized 3-D Finite Element Model for Transient Simulation of Two-Phase Heat Transport with Phase Transformation and a Moving Interface," IEEE, 1990, pp. 436-445.			<input type="checkbox"/>
		FELICELLI et al., "Numerical Simulation of Freckle Formation in Directional Solidification of Binary Alloys," IEEE, 1992, pp. 433-441.			<input type="checkbox"/>
		GURNIS et al., "Finite Element Solution of Thermal Convection on a Hypercube Concurrent Computer," 1988, ACM, pp. 1176-1179.			<input type="checkbox"/>
		GANZHA et al., "Symbolic-Numeric Stability Investigations of Jameson's Schemes for the Thin-layer Navier-Stokes Equations, 1994, ACM, pp. 234-241.			<input type="checkbox"/>
		CHEN, et al. "Simulation of Injection-Compression Mold-Filling Process," Int. Comm. Heat Mass Transfer, (1998), pp. 907-917, Vol. 25, No. 7.			<input type="checkbox"/>
		SETHIAN et al., "Computing Turbulent Flow in Complex Geometries on a Massively Parallel Processor," 1991, ACM, pp. 230-242.			<input type="checkbox"/>
		TOMOVIC, M. M. "Simulation Software Makes Metalcasting Course More Interesting and Challenging," 1996, pg. 1405-1408, Vol. 3, IEEE.			<input type="checkbox"/>
					<input type="checkbox"/>
					<input type="checkbox"/>

9105-212.EAS.gp.379379